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within said slots of said stator core and generating electric current, and projecting portions which project from the axial ends of said slots; and

bridge portions comprising circumferential portions connecting said axially parallel portions to each other within each of said three phases of windings;

wherein inner circumferential surfaces of said bridge portions are placed in contact with [said] the axial end surfaces of said stator core without any gaps in the direction of the central axis of said stator core, so that the spatial ratio occupied by said stator windings belonging to said bridge portions exposed beyond said axial end surfaces of said stator core, has a high density.

REMARKS

Claims 1-15 are all the claims pending in the application. By this Amendment Applicant is amending claim 1. Reconsideration and allowance of all claims are respectfully requested in view of the following remarks.

Rejections Under 35 U.S.C. § 103

Claims 1-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Adachi (Japanese Patent Publication No. JP 9-103052, "Adachi") in view of Glennon et al. (USP, 4,598,233 "Glennon"). This rejection is respectfully traversed as follows.

Applicant's claimed invention clearly defines over Adachi in view of Glennon, because Adachi in combination with Glennon does not disclose, teach or suggest Applicant's claimed

stator for an automotive alternator. The Examiner asserts that it would have been obvious to one skilled in the art to modify the structure of Adachi in view of Glennon to produce Applicant's claimed stator structure. Applicant respectfully disagrees with the Examiner's assertion.

With respect to claim 1, the Examiner acknowledges Adachi does not disclose a stator coil wherein inner circumferential portions of the bridge portions of the stator coil winding are placed in contact with axial end surfaces of the stator core so that there are not gaps therebetween, as clearly claimed in claim 1. The Examiner asserts that Glennon, while not specifically applying to a preformed stator coil assembly, teaches "shortening of the stator assembly by bringing the end-turns of the coil into contact with the stator core." The Examiner relies on Glennon to teach "one of ordinary skill in the art to form a pre-formed coil such that the gaps provided between the axially arranged elements was minimized." However, Glennon does not teach such a coil.

As set out in Applicant's previous amendments of July 6, 2000 and October 8, 1999, Adachi does not disclose, teach or suggest a stator coil with bridge portions in contact with axial end surfaces of the stator core with no gaps therebetween. Similarly, while Glennon does disclose "end-turns" which "extend substantially circumferentially and radially" with "no appreciable extension axially," these end-turns are not part of a preformed coil as required by Applicant's claim 1 and acknowledged by the Examiner. As clearly taught by Glennon, the end-turns are brazed or similarly connected to the ends (54, 56) of pre-assembled conductors 52 through jogs 68 (see col. 4, lines 8-25 of Glennon). As previously set out in Applicant's amendment of October 8, 1999, with respect to the Kawai reference, individually wound coils

(or in this case end-turn connections) may produce a smooth winding with no appreciable gaps. However, these individually wound coils also dramatically decrease the efficiency of stator manufacturing, thus, obviating the specifically stated purpose of Applicant's invention, as well as the reason for preforming the coil (as required by Applicant's claim 1 and the Adachi reference) in the first instance. Thus, it is not obvious that one skilled in the art would modify Adachi according to Glennon, because Glennon teaches away from Adachi as well as Applicant's claimed invention. Further, while preformed coils in and of themselves, as well as individually wound coils with no gaps when assembled to a stator, might be argued to be known in the art, preformed coils without gaps, as claimed in Applicant's claim 1 are not known. As set out in Applicant's October 8, 1999 amendment, up until Applicant's invention, preformed stator coils could not be assembled to stator cores without gaps therebetween, or without damage to the coils (see page 5, line 26-33 of Applicant's specification). Thus, even in one were to attempt to modify Adachi in view of Glennon, such a modification would not achieve Applicant's invention of claim 1.

With respect to claim 2, this claim is dependent upon non-obvious claim 1 and is patentable at least for the reasons set out above. Additionally, as set out in Applicant's amendment of October 8, 2000, it is clearly recited in Applicant's claim 2 that longitudinally (radially) disposed teeth of a stator core are provided with grooves in the end surfaces thereof which are perpendicular to a band portion of the stator core (parallel with the direction of the teeth), and recessed portions on both sides of the teeth near the ends so that circumferentially projecting portions are formed. Adachi does not teach, disclose or suggest this or any similar

structure. Adachi merely discloses circumferentially projecting portions on the end of its teeth. It does not disclose grooves or recesses in a pre-finished stator core which form these portions in a finished stator core. Thus, when a preformed stator coil is assembled to Adachi's stator core, the stator coil will be damaged (see page 5, line 26-33 of Applicant's specification), and Adachi discloses no similar structure. Similarly, Glennon discloses a magnetizable body 12 (stator) enclosed by a seal (90, 91) having slots 50 in which conductors 52 are assembled. No preformed stator coil, or pre-finished stator core with grooves or recesses is disclosed. Therefore, claim 2 is not rendered obvious by the Adachi-Glennon combination.

With respect to claims 3 and 4, these claims depend upon non-obvious claims 1 and 2, and are patentable at least for the reasons set out above. Further, Adachi in combination with Glennon does not disclose that a preformed stator coil has a flat planar shape. Thus, claims 3 and 4 cannot be rendered obvious by the Adachi-Glennon combination.

Therefore, Applicant respectfully submits that it is far from obvious that Adachi could be modified in view of Glennon to achieve Applicant's invention of claims 1-4. It is clear that the disclosure of Adachi and Glennon, individually or in combination, do not teach the Applicant's claimed invention. In fact as set out above, Glennon teaches away from both Adachi and Applicant's invention of claims 1-4. More specifically, an artisan of ordinary skill would not have and could not have applied the references in the manner suggested by the Examiner to produce the subject matter of the claimed invention, because of the clear differences between the cited references and Applicant's claimed invention. In view of these differences, it is respectfully submitted that the cited reference does not establish a *prima facie* case of

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obviousness against Applicant's claims, as one of ordinary skill in the art would have had to add to these references additional features which are neither described nor suggested by the cited references. Therefore, it is submitted that Adachi in combination with Glennon does not form a sufficient basis for rejection of Applicant's claims 1-4 under 35 U.S.C. § 103, and reconsideration and withdraw of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

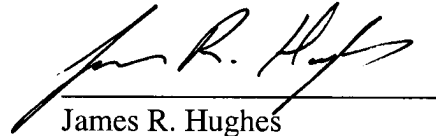
Conclusion

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

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Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James R. Hughes", is written over a horizontal line.

James R. Hughes
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